DIPHOTERINE® : PUBLICATIONS

>*Written publications*

>**Burns, 2002, 28, 782-786**
Schrage NF, Kompa S, Haller W, Langefeld S
Department of Ophthalmology, RWTH Aachen, Germany

« Use of an amphoteric lavage solution for emergency treatment of eye burns First animal type experimental clinical considerations »

This animal experimental study showed the efficiency of a rinsing with Diphotérine® on an ocular burn due to 1N NaOH in a double blind way compared to a 0.9% sodium chloride solution. After 5 minutes of rinsing, the pH of the anterior chamber can be decreased to 10 ± 0 for the saline solution and to 9.35 ± 0.3 to Diphotérine®. No nocive effect of Diphotérine® was observed compared to a 0.9% saline solution.

>**Burns, 2002, 28, 670-673**
Gérard M[1], Merle H[2], Chiambaretta F[3], Rigal D[3], Schrage N[4]
[1] Service d'Ophtalmologie, Centre Hospitalier de Cayenne, Rue des Flamboyants, 97300 Cayenne, Guyane Française, France ; [2] Service d'Ophtalmologie, Centre Hospitalier Universitaire de Fort de France, Hôpital Pierre Zobda Quitman, BP 632, 97261 Fort de France Cedex, France [3] Service d'Ophtalmologie, Centre Hospitalier Universitaire de Clermont Ferrand, Hôpital Gabriel Montpied, Rue Montalembert. BP 69, 63003 Clermont Ferrand, Cedex France. [4] Labor der Augenklinik RWTH, Pauwelsstrase 30, D-52057 Aachen, France

« An amphoteric rinse used in the emergency treatment of a serious ocular burn »

This clinical case of serious ocular burn (Grade IV from ROPPER-HALL's classification, which normally needs a graft) was able to heal in an optimal way, thanks to a rinsing with Diphotérine®, even if delayed of 1 hour, followed by a therapeutic protocol aimed at decreasing the inflammation and control the appearance of a deleterious stromal oedema.

>**Vet Hum Toxicology 2002, 44, 4, 228-231**
Hall AH[1], Blomet J[2], Mathieu L[2]
[1]Department of Emergency Medecine, Division of Toxicology, Texas Tech University Health Sciences Center-El Paso, El Paso, TX, USA and TCMTS Inc., 3456 Oxcart Run Street, El Paso, 79936, USA; [2]Laboratoire PREVOR, Valmondois, France

« La Diphotérine pour la décontamination d'urgence des projections chimiques oculaires et cutanées : une revue » [Diphotérine for emergent Eye/Skin Chemical Splash Decontamination : A review]

This publication is a review of all data on Diphotérine®, either concerning the safety brought in the rinsing by Diphotérine® (non toxic for the animal or the human being), or concerning the efficacy of the rinsing with Diphotérine® with the results obtained in the industry. This paper presents case reports, series of cases and statistical studies.

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>**Graefe's Arch Clin Exp Ophthalmol 2002, 240, 208-313**
Kompa S, Schareck B, Tymper J, Wüstemeyer H, Schrage NF
Department of Ophthalmology, RWTH Aachen, Germany

« Comparaison de produits de lavage d'urgence oculaire sur des yeux de cochons brûlés » [Comparison of emergency eye-wash products in burned porcine eyes]

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The long-term prognosis of the patients with ocular chemical burns depends on the immediate washing after the splash. The emergency treatment after the burn should be a washing with a high absorption capacity of the chemical aggressor and a high hypertonicity difference with the cornea.

>**Acta Ophthalmologica Scndinavica 2002, 80, 1, 4-10**
Kuckelkorn R, Schrage N, Keller G, Redbrake C
Department of Ophthalmology, Universitätsklinikum der RWTH Aachen, Germany

« Traitement d'urgence des brûlures oculaires chimiques et thermiques » [Emergency treatment of chemical and thermal eye burns]

The eye is hypotonic compared to the corneal stroma. This osmolarity gradient creates a flow of water inside the cornea and the invasion of the corrosive substance in the deepest layers of the cornea.
For this reason we recommend high osmolarities for the initial rinsing to drive the water and the diluted corrosive substance outside the burnt tissues.

>**Emergency Oggi 2002, january, 12-14**
M Cavallini- L D'Alessandro
UO di Chirurgica Plastica e Ricostruttiva
Ospedale Galeazzi, Milano, Italy

« Emergency treatment of chemical burns » ["Trattamento in emergenza delle ustioni chimiche"]

This article describes the chemical burn and the first aid to apply. It also reviews the different decontamination means and in particular Diphotérine®.

Deutsches Ärzteblatt 2000 ; 97, 104-109
Kuckelkorn R, Schrage N, Redbrade C
Augenklinik, Aix La Chapelle, Germany

"First aid measures after chemical and thermal eye burns" [Erste Hilfe Massnahmen bei Verätzungen Und Verbrennungen der Augen]

This publication presents first a precise acute classification of the different grades of a chemical eye burn and the clinical corresponding prognosis. In order to avoid too serious ocular lesions, the authors insist on the necessity of an early rinsing as well as on the quality of the rinsing. The rinsing must be isotonic or hypertonic compared to tears. The physiological serum is not sufficient because it is not isotonic compared to tears. The rinsing must be active on the aggressive chemical products. The type of secondary care depends on the burn degree.

>**J Fr Ophtalmol 2000 ; 23, 1-10**
Gérard[1] M, Josset[3] P, Louis[2] V, Menerath[2] JM, Blomet[4] J, Merle[1] H
[1] CHU de Fort de France, Martinique, France, [2] CHU, Clermont-Ferrand, France, [3] Hôpital Trousseau, Paris, France, [4] PREVOR Laboratory, Valmondois, France

"Existe-t-il un délai pour le lavage oculaire externe dans le traitement d'une brûlure oculaire par l'ammoniaque ? Comparaison de deux solutions de lavage : serum physiologique et Diphotérine®" [Is there a delay for the external eye rinsing in the treatment of an eye burn due to ammonia ? Comparison between 2 rinsing solutions: physiological serum and Diphotérine®]

It seems that the interest of a rinsing with Diphotérine® compared to a washing with a physiological serum, within the first 10 minutes after an ocular burn due to ammonia, can be established on anatomopathological arguments: the absence of any stromal oedema in case of a rinsing with

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Diphotérine® and its presence in case of a rinsing with a physiological serum and on biological arguments: the inflexion of the pH curve in case of a rinsing with Diphotérine®.

>**Archives des Maladies Professionnelles et de Médecine du Travail 2000, 61, 63-64**

>Minaro[1] M, Dedry[2] R, Verdun-Esquer[1] C, Brochard[1] P, Favarel-Garrigues[2] J.C.
>[1] Hôpital PELLEGRIN, Bordeaux, France, [2]Centre Anti Poison, Hôpital PELLEGRIN, Bordeaux, France

"Brûlures chimiques : place de la Diphotérine®" [Chemical burns : the place of Diphotérine®]

The consensual first aid treatment of the chemical burn is still water, for the eye or for the skin, because of the lack of alternative methods. Diphotérine® is still very seductive due to its action mechanism and the first results that are published. Anyway the potential seriousness of chemical burns and the restricted number of way to fight against this problem should incite to study deeper this product.

>**J Fr Ophtalmol 1999 ; 22, 4, 502**

Gérard[1] M, Merle[1] H, Chiambaretta[2] F, Louis[2] V, Richer[1] R, Rigal[2] D
[1] CHU de Fort de France, Martinique, France, [2] CHU, Clermont-Ferrand, France

"Technique chirurgicale de l'autotransplantation limbique dans les brûlures oculaires graves et récentes" [Surgical techniques for the limbic autotransplantation in case of serious and recent eye burns]

We must remind the initial importance of the emergent ocular rinsing, at best realised with Diphotérine®…

> **J Fr Ophtalmol 1999 ; 22, 10, 1047-1053**

Gerard[1] M, Louis[2] V, Merle[1] H, Josset[3] P, Menerath[2] JM, Blomet[4] J
[1] CHU de Fort de France, Martinique, France, [2] CHU, Clermont-Ferrand, France, [3] Hôpital Trousseau, Paris, France, [4] PREVOR Laboratory, Valmondois, France

[Etude expérimentale sur la pénétration intra-oculaire de l'ammoniaque] "Experimental study about the intra-ocular penetration of ammonia"

This study confirms the quick penetration in 1 to 3 minutes of ammonia through the cornea and presents for the first time a measure in the same time of the pH and the concentration of ammonia. It allowed to show the possibility to measure in vivo the density of proteins consumed by a base that has penetrated into the aqueous humour.

> **Thèse de doctorat de Gérard, M., Sept 1998, Clermont-Ferrand, France**

>"Brûlures oculaires par bases : comparaisons de données cliniques humaines et expérimentales sur la pénétration intra-oculaire de l'ammoniaque. Existe-t-il un délai pour le lavage oculaire externe dans le traitement des brûlures oculaires graves par bases ?" [Ocular burns with bases : comparison of human and experimental clinical datas on the ammonia intra-ocular penetration. Is there a delay for the external eye rinsing in the treatment of serious eye burns due to alkalis]

Interest of Diphotérine® compared to a physiological serum : return to the physiological pH, absence of any oedema.

>**Études et enquêtes INRS**

"Premiers soins en cas de projections oculaires, premiers résultats d'enquête" [First aid in case of eye splashes, first results]

>DMT, 53, 1993. Falcy M[1], Blomet J[2].

DIPHOTERINE® : PUBLICATIONS

Laboratoire PREVOR, Valmondois, France

> **[**

“Évaluation de l’efficacité des premiers soins lors de projections de produits chimiques” Valuation of the first aid efficiency in case of chemical splashes]

>DMT, 70, 1997. Falcy M[1], Blomet J[2].
[1] INRS, Paris, France ; [2] PREVOR Laboratory, Valmondois, France

These studies were carried out in the companies on all types of chemicals. They show that Diphotérine® has the same great efficiency as water, even if the protocol is different. A suppression of the pain is noticed in the case of the rinsing with Diphotérine®.

> **SMT 1986, 85, 25-33**

>Josset[1] P, Meyer[2] MC, Blomet[3] J.

>[1] Hôpital TROUSSEAU, Paris, France, [2] Hôpital Saint-Antoine, Paris, France, [3] PREVOR Laboratory, Valmondois, France

“Pénétration d’un toxique dans la cornée, étude expérimentale et simulation” [Penetration of a toxic in the cornea, experimental study and simulation]

From an experimental point of view, the use of a product specialised allows to stop the penetration of a chemical product into the tissues in less than 20 seconds and to evacuate it.

> **Bull. Soc. Opht. France 1986 ; 6-7 :765-769**

>Josset[1] P, Pelosse[2] B, Saraux[3] H.

>[1] Hôpital TROUSSEAU, Paris, France, [2] Hôpital Saint-Antoine, Paris, France, [3] Ingénieur physico-chimiste

“Intérêt d’une solution isotonique amphotère dans le traitement précoce des brûlures chimiques basiques cornéo-conjonctivales. étude expérimentale et histologique” [Interest of an amphoteric and isotonic solution for the early treatment of corneo-conjunctival chemical burns due to bases. Experimental and histological study]

The use of an isotonic and especially buffered isotonic solution re-establishes much more quickly the extra and above all intra ocular pH, and preserves a big quantity of endothelial cells that are destroyed when the eye is rinsed with tap water.

DIPHOTERINE® : PUBLICATIONS

>*Oral communications and posters*

>AISS Congress (Association Internationale de la Sécurité Sociale) 2003, May 2003, Athens, Greece

Mathieu, L, PREVOR Laboratory, Valmondois, France, Girard, M, Medical Service, Rhodia, La Rochelle, France, Uellner, H, Safety Engineer, Martinswerk, Bergheim, Germany, Nehles, J, Medical Service, Mannesmann, Remscheid, Germany, Simon F, Atofina, Saint Avold, France

Poster presentation : « A review about Diphotérine® : the solution for first aid emergency decontamination of eye/skin chemical splashes

METHODS: we present here the different significant results obtained with Diphotérine® during the last twelve years in the industry.
RESULTS: 1) Six case reports of splashes due to pure or concentrated acids or bases, 2) from 1987 to 1992, a statistical study carried out on 180 chemical accidents in a French company, 3) in a German factory, from 1991 to 1993, 42 chemical splashes due to caustic soda, 4) another German factory also obtained good results with the Diphotérine® rinsing on 24 cases of eye and skin splashes due to acids or bases, 5) the preliminary results from a French company on 375 cases of splashes due to major corrosive products comparing Diphotérine® versus water as first aid rinsing solution.
CONCLUSION: The emergency rinsing with Diphotérine® allowed to significantly decrease the losses of work time and the secondary care in all cases compared to water, and to avoid the appearance of sequels for the workers.

>Eurotox 2002, XXXX European Congress of Toxicology, September 2002, Budapest, Hungary

Référence : Mathieu et al Toxicology Letters 2002, supplement 1/135, 290, S148

Mathieu L [1], Gérard M[2], Schrage N[3], Langefeld S[4], Blomet J[1]
[1]PREVOR Laboratory, Valmondois, France; [2]Centre Hospitalier de Cayenne, Cayenne, France ; [3]Augenklinik, Aachen, Germany; [4]Langefeld S, Brüderkrankenhaus, Trier, Germany

Poster presentation: Intérêt d'une solution de lavage active pour la décontamination de projections oculaires corrosives [Interest of an active rinsing solution for the decontamination of ocular corrosive splashes]

This poster presents the results of the elaboration of the *in vitro* model allowing to simulate the ocular decontamination, tested here with 1N caustic soda and 1N hydrochloric acid. A comparative study between water, saline solution and Diphotérine® showed the superiority of the rinsing with Diphotérine® with a simple dosage, simulation of an external rinsing or complete rinsing. The same results were obtained by an *in vivo experiment*.

>Eurotox 2002, XXXX European Congress of Toxicology,September 2002, Budapest, Hungary

Référence : Mathieu et al Toxicology Letters 2002, supplement 1/135, 333, S166

Mathieu L [1], Cavallini M[2], Corsi MM[2]
[1]PREVOR Laboratory, Valmondois, France; [2]Plastic Surgery Dept. Galeazzi Hospital, Milan, Italy

Poster presentation : Efficacité de la Diphotérine® sur la décontamination d'acide chlorhydrique chez le rats : une étude comparative [Efficacy of Diphoterine® on HCl decontamination in rats : a comparative study]

The Diphotérine® amphoteric solution showed satisfying results, not only on the immunological answer point of view, but also in the burn healing and the pain control (high level of β–endorphine, and low level o P substances) compared with the other solutions tested.

>Congress of the French Society ot Ophthalmology, May 2002, Paris, France

DIPHOTERINE® : PUBLICATIONS

Accepted for publication in Burns

[1]Gérard M, [2] Merle H, [3]Chiambaretta F, [3]Rigal D, [4]Schrage N
Ophtalmologie department
[1]Centre Hospitalier de Cayenne, France, [2] CHU de Fort de France, France [3] CHU de Clermont-Ferrand, France, [4]Augenklinik, Aachen, Germany

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Poster presentation : Intérêt de la Diphotérine® comme solution de lavage pour le traitement d'urgence des brûlures oculaires graves [Interest of Diphoterine® as an ocular rinsing solution for the emergency treatment of serious ocular burns]

This poster presents one case of serious eye burn (grade IV according to Ropper Hall classification) which heal thanks to a simple preservative therapeutic treatment, preceded by an initial rinsing with 1 litre of Diphotérine®, one hour after the accident.

>**41St Annual Meeting of Society of Toxicology, March 2002, Nashville, Tennessee, USA (Toxicological Sciences, supplement, Vol. 66, Number 1-S, March 2002, page 165, M804) and 9th Congress of the European Burns Association, 21st Congress of the French Society for Burn Study and Treatment, September 2001, Lyon, France**

M. Cavallini
Plastic Surgery Dept. Galeazzi Hospital, Milan, Italy

Poster presentation: « Experimental immunological study in chemical burns in rats »

The Diphotérine® amphoteric solution showed satisfactory results, not even on the immunological answer level, but also in the burn healing and the pain control (high levels of β–endorphin, and low levels of P substance) in comparison with the other solutions used.

>**Semi Conductor Safety Association European Congress, October 2000, Milan, Italy**

>Hall AH, Toxicology Consulting and Medical Translating Services, Elk Mountain, WY USA

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"Diphotérine® for emergent eye/skin chemical splash decontamination: a review"

In this presentation are gathered different types of proofs of the efficiency of eye/skin splashes rinsing with Diphotérine®: in vitro experiments on more than 600 chemical products, in vivo experiments, about Diphotérine® toxicity and its efficiency on an experimental caustic soda burn, a comparative study of the effect of a rinsing on sane volunteers, some case reports of splashes due to corrosive products washed successfully with Diphotérine®, a series of cases of eye and skin splashes as well as comparative statistical studies of Diphotérine® efficiency and other washing solutions. Diphotérine® appears as a major improvement in the first aid rinsing of eye and skin splashes.

>**International Congress on Environmental Health, 4th Annual Meeting of the International Society of Environmental Medicine (ISEM), October 2000, Hanover, Germany**

>[1]Langefeld S, [1]Schrage NF, [2]Uellner H, [3]Nehles J, [4]Hall AH

>[1]Dept of Ophthalmology, RWTH Aachen, Germany, [2]Martinswerk, Bergheim, Germany, [3]Mannesman, Remscheid, Germany, [4]Toxicology Consulting and Medical Translating Services, Elk Mountain, WY, USA

Poster: "A review about Previn® (Diphotérine®): a solution for first aid emergency decontamination of eye/skin chemical splashes"

This poster gathers all the results obtained with Previn® (German version for Diphotérine®) in Germany:

DIPHOTERINE® : PUBLICATIONS

- a comparative study about the efficiency *in vivo* decontamination with sodium chloride 0,9%, a phosphate buffer and Previn® on an experimental caustic soda burn
- a study about the effects of a rinsing with Previn® on sane volunteers
- some case reports about splashes with major corrosive products (sulphuric acid, nitric acid, and sodium hydroxide), efficiently rinsed with Previn®
- the efficiency of the first aid rinsing with Previn® on a series of eye and skin splashes in a metallurgic plant and a comparative statistical study about the efficacy of different rinsing methods including Previn® to wash ocular sodium hydroxide splashes.

The first aid rinsing with Previn® is efficient for the decontamination of eye and skin splashes. A decrease of the length of the loss of work and of the secondary care is noticed in all cases. There is no sequel.

>**Eurotox 2000, XXXVIII European Congress of Toxicology, September 2000, London, UK**
>**Reference : Mathieu et al Toxicology Letters 2000, supplement 1/116, 85, A313**

>Mathieu L[1], Health and Safety Department[2], Nehles J[3], Uellner H[4], Girard M[5]
>[1]PREVOR Laboratory, Valmondois, France; [2]AVESTA Sheffield AB Sweden; [3]MANNESMAN, Remscheid, Germany;[4]MARTINSWERK, Bergheim, Germany; [5]RHONE POULENC, La Rochelle, France

Poster:"A review about Diphotérine® : the solution for emergency decontamination of chemical splashes"

The testimony of Diphotérine® users in France, in Germany and more recently in Sweden allowed to gather a large number of splashes, on the eye or on the skin that were efficiently rinsed with Diphotérine®. We notice a lack of sequelae, as well as a decrease of the secondary care and the losses of work.

>**Brulologie 2000 XXe CONGRES NATIONAL SFETB, June 2000, Toulouse, France**

>Simon F
>Medical Department, ATOCHEM, Saint-Avold, France

Poster : "Comparaison eau/Diphotérine® : lavage de plus de 600 projections chimiques sur 7 ans sur le site ATOCHEM Saint-Avold" [Comparison Water/ Diphotérine® : rinsing of more than 600 chemical splashes during 7 years on the ATOCHEM Saint Avold plant]

The preliminary analysis of the observations study collected during 7 years on the ATOCHEM plant in Saint-Avold showed a significant superiority of the rinsing with Diphotérine® compared to the rinsing with water, whatever the chemical involved is.

>**American Industrial Hygiene Conference and Exhibition, May 2000, Orlando, Florida, USA**

>Hall AH[1], Blomet J[2], Mathieu L[2], Nehles J[3]
>[1] Toxicology Consulting and Medical Translating Services, Elk Mountain, WY, USA ; [2] PREVOR Laboratory, Valmondois, France,
>[3] Mannesmann, Remscheid, Germany

Oral communication : « Diphotérine® for emergent decontamination of eye/skin chemical splashes »

Diphotérine® is a safe and efficient rinsing solution for the first aid decontamination of eye and skin chemical splashes.

>**Occupational Hygiene 2000, April 2000, Manchester, UK**

>Mathieu L[1], Blomet J[1], Girard M[2], Uellner H[3], Nehles J[4]
>[1]PREVOR Laboratory, Valmondois, France ; [2]Rhône-Poulenc , La Rochelle, France ; [3]Martinswerk, Bergheim, Germany ; [4]Mannesmann, Remscheid, Germany

DIPHOTERINE® : PUBLICATIONS

Poster : « A review about Diphotérine® : the solution for emergent decontamination of eye/skin chemical splashes »

The emergent use of Diphotérine® is a good alternative for the decontamination of eye and skin chemical splashes. It allows to decrease the loss of work and the secondary care, and to avoid sequelae for the users.

>**XXXVII European Congress of Toxicology, Eurotox June 1999, Oslo, Norway**

>Langefeld[1] S, Schareck[1] B, Blomet[2] J, Mathieu[2] L, Schrage[1] N, Kompa[1] S, Tympner[1] J.
Germany, [2] PREVOR Laboratory, Valmondois, France

" Hyperosmolar rinsing as first aid in eye chemical burns? "

Toxicology Letters, 1999, 109, suppl. 1, p 298, 97

The hypertonic rinsing is safe for sane eyes. The hypothesis of ions captation coming from sane eyes should be admitted as an additional characteristic.

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> **105è congrès de la Société Française d'Ophtalmologie, May 1999, Paris, France**

>Gérard[1] M, Louis[2] V, Josset[3] P, Merle[1] H, Blomet[4] J
>[1] Fort de France CHU, Martinique, France, [2] CHU, Clermont-Ferrand, France, [3] Hôpital Trousseau, Paris, France, [4] PREVOR Laboratory, Valmondois, France

"Etude experimentale sur la pénétration intra oculaire de l'ammoniaque. Existe-t-il un délai pour le lavage oculaire externe dans le traitement des brûlures oculaires graves par bases ?" [Experimental study about the intra-ocular penetration of ammonia. Is there a delay for the external ocular rinsing for the treatment of serious eye burns due to alkalis?]

Experimental proof of the interest of the rinsing with Diphotérine® in the first minutes following an eye basic burn.

>**Congrès de la SFUM (Société Française des Urgences Médicales), April 1999, Marseille, France**

>Mathieu[1] L, Blomet[1] J, Nehles[2] J, Dupont[1] V
>[1] PREVOR Laboratory, Valmondois, France, [2] Mannesmann, Remscheid, Germany

"Résultats préliminaires de l'utilisation de solutions de lavage d'urgence Previn® (Diphotérine®) et Hexafluorine® lors de projections chimiques dans une entreprise." [Preliminary results of the use of the first aid rinsing solutions Previn® (Diphotérine®) and Hexafluorine® in case chemical splashes occurred in a company]

In the 36 cases of chemical splashes rinsed with Previn® or Hexafluorine®, no sequel occurred and no secondary care were necessary.

>**Ist International Congress on the Valuation of the Knowledge about Chemical Burns, October 1997, La Baule, France.**

Dr Girard, Rhône-Poulenc, La Rochelle, France

"Historique de l'utilisation de la Diphotérine® sur le site Rhône Poulenc de La Rochelle" [Historic of the use of Diphotérine® on the Rhône-Poulenc Plant La Rochelle]

This study shows the efficiency of Diphotérine® on a large spectrum of chemicals through the decrease of loss of work and secondary care.

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>**Ist International Congress on the Valuation of the Knowledge about Chemical Burns, October 1997, La Baule, France.**

>Dr Konrad, Uellner, Theisen, Dr Kullack. Martinswerk, Bergheim, Germany.

"Etude comparative des méthodes de lavage des accidents de soude. A propos de 45 observations" [Comparative study of rinsing methods for accidents with caustic soda. About 45 observations]

This study takes into account accidents due to caustic soda splashes and shows that a rinsing with Diphotérine® induces a major decrease of the amount of days lost from work, and even a strong decrease of the complexity of the care. This study also proves that the rinsing with Diphotérine® is safer than the one with water.

>**Ist International Congress on the Valuation of the Knowledge about Chemical Burns, October 1997, La Baule, France.**

>Schrage N., Augenklinik, Aix-La-Chapelle, Germany

"Retour aux équilibres physiologiques des électrolytes de la cornée, conditions indispensables de la restitution "ad integrum" [Return to physiological status of the cornea electrolytes, necessary conditions of the "ad integrum" restitution]

Study of the efficiency of a primary hypertonic rinsing, followed by a secondary isotonic rinsing to preserve the electrolytic balance of the cornea.

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>**Ist International Congress on the Valuation of the Knowledge about Chemical Burns, October 1997, La Baule, France.**

>Matern P, Benadja C, Dr Breton G., Peugeot, Poissy, France

"Intégration de la Diphotérine® dans un centre de production automobile" [Integration of Diphotérine® in a car production center]

Installation of Diphotérine® Eyewashes against eye splashes of chemical products in some workshops.

>**Ist International Congress on the Valuation of the Knowledge about Chemical Burns, October 1997, La Baule, France.**

>Blomet J, PREVOR Laboratory, Valmondois, France

"Du lavage passif par entraînement au lavage actif des accidents chimiques : la Diphotérine®, principes et mécanismes" [From a passive to an active rinsing of chemical accidents : Diphotérine®, principles and mechanisms]

To ensure the polyvalence against the 11 millions of potentially dangerous molecules, it is necessary to have a multi site antagonist able to treat all corrosive or irritant residues. To ensure the polyvalence and the neutrality each site has to be amphoteric.

Congrès du Jermov 1996, Montpellier, France

>Schrage N, Flick S, Aschenbrenner W, Screier A, Reim M.

>Augenklinik, Aix-La-Chapelle, Germany

>

" Rinsing therapy in severe alkali burns of rabbit eye "

>

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The washings with phosphate buffer solutions and physiological serum are not recommended because of the danger of calcification of the cornea in the first case, and of inefficiency in the second case. Diphotérine® is a possible alternative.